

FACT SHEET

Improving Quality in Child and Adolescent Health—Research and Tools

Agency for Healthcare Research and Quality • 2101 East Jefferson Street • Rockville, MD 20852



AHRQ is the lead agency charged with supporting research designed to improve the quality of health care, reduce its cost, address patient safety and medical errors, and broaden access to essential services. AHRQ sponsors and conducts research that provides evidence-based information on health care outcomes; quality; and cost, use, and access. The information helps health care decisionmakers—patients and clinicians, health system leaders, and policymakers—make more informed decisions and improve the quality of health care services.



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Introduction

The Agency for Healthcare Research and Quality's (AHRQ) sponsors research that focuses on, among other issues, the quality of health care. AHRQ-supported projects are addressing these issues for children and adolescents, as well as other populations. This fact sheet provides examples of AHRQ's ongoing research projects and recent research findings designed to improve the quality of health care for children and adolescents.

AHRQ's quality of care research aims to:

- Determine what works in quality improvement efforts.
- Develop measures for accountability and improvement
- Identify important quality problems in children's health care.
- Identify factors in the health care system that determine quality.

This fact sheet also highlights the tools that stem from AHRQ-supported research. AHRQ intends for these tools to be useful to healthcare providers, health systems, and children and their families.

†Project includes children or children's healthcare issues, but does not focus exclusively on children

Research in Progress

Quality Improvement

- *Researchers seek to improve quality of care for newborns with jaundice.*

The impact of a quality-improvement intervention on adherence to the American Academy of Pediatrics' guidelines for jaundice management is being assessed. R. Heather Palmer, Principal Investigator (AHRQ grant HS09782).

- *Study focuses on eliminating barriers to implementation of adolescent preventive health guidelines.*

This quality improvement intervention addresses provider and system-level barriers to delivery of preventive services to adolescents during primary care visits. The goal is to determine whether a systems intervention in a managed health care organization—including provider training and customized screening and charting tools—results in higher rates of provider delivery of clinical preventive services to adolescents than following the usual standard of care. Charles E. Irwin, Principal Investigator (AHRQ grant HS11095).

- *Internet learning modules for physicians may improve chlamydia screening for adolescents.*

Study physicians will complete a year-long series of Internet learning modules that integrate case-based education with audit, feedback, and benchmarking of



practice profiles. The goal is to improve chlamydia screening and treatment rates among 16-26 year old patients, which should result in lowered rates of pelvic inflammatory disease. Jeroan Allison, Principal Investigator (AHRQ grant HS11124).

- *Investigators seek to improve STD screening for asymptomatic teens.*

This quality improvement intervention involves a small-group educational program for clinic personnel on sexually transmitted diseases, including chlamydia. It involves the use of specially developed materials, and the sessions will be augmented with weekly supervision and followup to reinforce the educational content. Mary Ann Shafer, Principal Investigator (AHRQ grant HS10537).

- *Project underway to test the cost-effectiveness of recently developed practice guidelines for pediatric asthma.*

This 5-year study is being conducted in three unrelated, geographically dispersed managed care settings. The researchers are evaluating educational and organizational approaches to quality improvement for pediatric asthma care, focusing primarily on symptom assessment. They also will examine other outcomes, including functional status, health care use, and patient satisfaction. Kevin Weiss, Principal Investigator (AHRQ HS08368).

- *Study compares two pediatric asthma management programs.*

Researchers are comparing a modified “easy breathing” program with a disease management program being used by 66 providers in 18 communities. Outcome measures will include adherence to guidelines, antiinflammatory prescription and use rates, hospitalization and ER visits, patient/family satisfaction, and quality of life. Michele M. Cloutier,

Principal Investigator (AHRQ grant HS11147).

- *A multisite intervention project for children with asthma should lead to improved outcomes and reduced costs.*

Using a family-focused quality improvement intervention for children with asthma, this study is targeting providers of care to poor, inner-city, minority youths ages 5-18 who are enrolled in a community health center-based Medicaid managed care organization. The goals are to develop a method to deliver patient-linked guideline prompts at the point of care using affordable information technology; evaluate the system’s effects on the process and outcomes of pediatric asthma care; and evaluate the effects on patient outcomes of a family-focused education intervention delivered by a community health worker. Judith Fifield, Principal Investigator (AHRQ grant HS11068).

- *Study findings will build an asthma case-management model for Head Start.*

The researchers are developing a pediatric asthma management model for Head Start personnel using evidence-based asthma management criteria. The goal is to improve the asthma management practices of children, parents, and staff, as well as reduce school absences and use of acute care services. Perla A. Vargas, Principal Investigator (AHRQ grant HS11062).

- *Study focuses on using evidence to enhance care for childhood illnesses.*

Investigators are examining whether providing evidence at the point of ambulatory pediatric care will improve antibiotic use in pediatric disorders, reduce duration of therapy for acute sinusitis, reduce use of bronchodilators, and increase the use of intranasal steroids for allergic

rhinitis. Robert L. Davis, Principal Investigator (AHRQ grant HS10516).

- *Standardizing surfactant therapy for preterm infants.*

One of the goals of this quality improvement study is to reduce morbidity and mortality among preterm infants by standardizing use of surfactant therapy for preventing and treating neonatal respiratory distress syndrome. Jeffrey D. Horbar, Principal Investigator (AHRQ grant HS10528).

- *Increasing delivery of preventive services in private pediatric practices.*

In this 4-year randomized trial, the researchers will implement and evaluate an intervention to increase rates of preventive services in 48 private pediatric practices in North Carolina. Pediatricians will be encouraged to develop practice-specific “office systems” that involve members of the office staff as a team to provide preventive care and patient education. Children on Medicaid, who are less likely to receive needed preventive services, will receive special attention. Peter A. Margolis, Principal Investigator (AHRQ grant HS08509).

- *†Project underway to improve ambulatory antibiotic prescribing practices.*

Data from the Minimizing Antibiotic Resistance in Colorado (MARC) study are being used to examine the processes and outcomes of care of two intervention strategies. The program will measure and assess changes in antibiotic prescription rates for pharyngitis in children and bronchitis in adults, using MCO and Medicaid data from physician practices. Ralph Gonzales, Principal Investigator (AHRQ Grant HS13001).

- *Researchers evaluate the effects of using hand-held technology to reduce errors in Attention-*

Deficit/Hyperactivity Disorder (ADHD) care.

This randomized controlled trial in 3 primary care practices will develop and evaluate a computerized system for laptop use in the examining room as an extension of an existing in-house prescribing system to improve the care of children with attention-deficit/hyperactivity disorder. Paula Lozano, Principal Investigator (AHRQ grant HS11859).

- *Impact of electronic prescribing on medication errors in ambulatory pediatrics being examined.*

The goals of this research are to assess the baseline medication error rate in an urban pediatric emergency department and clinic; to compare handheld implements for electronic prescription writing; and to determine the effect that electronic prescribing has on medication error rates and prescribing practices. Kevin Johnson, Principal Investigator (AHRQ grant HS11868).

- *Center for Evaluation and Research in Pediatric Safety being established.*

Researchers are establishing a Developmental Center for Evaluation and Research in Patient Safety (DCERPS) to develop programs to reduce and prevent medical errors in children in diverse settings (e.g., inpatient and intensive care units, emergency departments, private pediatric practices in rural and urban areas, and primary care centers serving minority populations). James A. Taylor, Principal Investigator (AHRQ grant HS11590).

- *Investigators to establish a Center for Patient Safety in Neonatal Intensive Care.*

The aims of this project are to: (1) create a DCERPS in Neonatal Intensive Care to reduce medical errors and enhance patient safety for high-risk newborns, and (2) determine how to learn most effectively from those medical errors

and then communicate the information to families. Jeffrey D. Horbar, Principal Investigator (AHRQ grant HS11583).

- *†Researchers establishing an Oregon Patient Safety Evaluation Center.*

The aim of this project is to establish a DCERPS to build a multi-institutional and interdisciplinary research program focusing on patient safety activities, and provide infrastructure for multiple future research studies. Several medical and clinical infrastructures will support the center that includes four pediatric programs that will review data on adverse outcomes in pediatric patients. David H. Hickam, Principal Investigator (AHRQ grant HS11550).

- *†The American Academy of Family Physicians (AAFP) DCERPS being established..*

This project will create a National DCERPS in primary care to strengthen AAFP's medical education programs to improve the safety of medical care for all patients of all ages, including children in the primary care physician's offices focusing on family practices and residency training clinics. John M. Hickner, Principal Investigator (AHRQ grant HS11584).

- *†Project underway to improve medication safety across clinical settings.*

This project is extending previous studies to new populations and settings to improve drug safety across the continuum of care in diverse patient groups. One study will determine the rates, types and predictors of medication errors and adverse drug events in a pediatric ambulatory setting, and perform a randomized controlled trial to assess the effectiveness of an intervention on reducing serious medication errors in children. David W. Bates, Principal Investigator (AHRQ grant HS11534).

- *†Researchers examine the use of surveillance, analysis, and interventions to improve patient safety.*

The goals of this project are to study: the best methods to identify and improve reporting of medical errors and adverse events; the epidemiology of medical errors including the organizational, process and human factors that contribute to the occurrence of medical errors; the effectiveness of educational and process interventions to reduce medical errors and improve patient safety; and how healthcare workers communicate with patients and families about medical errors. In this study, researchers will use risk management and incident report data on children from the St. Louis Children's Hospital, to document and catalogue medical errors and patient safety issues in children. Victoria Fraser, Principal Investigator (AHRQ grant HS11898).

- *†Investigators address preventable medication use variance in Mississippi.*

The goals of this project are to: (1) identify the causes of preventable health care errors and patient injury in health care delivery; (2) develop, demonstrate, and evaluate strategies for reducing errors and improving patient safety; and (3) disseminate the results of the project's research and strategies throughout the health care industry. Researchers will focus on ten study sites throughout the state that includes priority populations (e.g., inner-city and rural areas, low-income and minority groups, women, children and the elderly). Andrew C. Brown, Principal Investigator (AHRQ grant HS11923).

- *Study focuses on the transfer of a novel pediatric simulation program.*

Researchers are determining whether the skills acquired within a simulated environment can be practiced in the real delivery room, and whether the

practice of these skills result in improved patient safety. The long-term objective is to improve the technical and behavioral performance of those caring for mothers and babies in the delivery room and thus reduce the rate of medical errors in that domain. Louis P. Halamek, Principal Investigator (AHRQ grant HS12022).

- *†Researchers explore applied strategies for more patient safety interventions.*

The setting of this study involves two practice-based research networks: the Colorado Research Network (includes a pediatric practice) and the High Plains Research Network. Both provide services to the rural, urban, minority, frontier and underserved populations. Researchers will collect and analyze the causes and effects of errors in primary care, as well as develop and implement interventions aimed at decreasing recognized errors in primary care. Wilson D. Pace, Principal Investigator (AHRQ grant HS11878).

- *†Small conference addressed asthma education in the emergency department.*

The Massachusetts General Hospital, including the Multicenter Airway Research Collaboration (MARC) Coordinating Center, held an expert consensus conference on April 1-3, 2001 to address the deficiencies in asthma education in the emergency department, and will design a research strategy to implement and assess its effects. Participants will develop a research agenda, including a multicenter, randomized clinical trial to assess the effects of a focused asthma education program on asthma outcomes. Carlos Camargo, Principal Investigator (AHRQ grant HS10940).

Quality Measurement

- *Quality-of-care measurements for high-risk infants are being developed.*

This project has three objectives: (1) develop new methods for measuring quality of care for very low birthweight infants, (2) apply the methods to estimating past and future quality of care, and (3) apply measures that summarize quality differences and economic performance across time and place. Jeanette A. Rogowski, Principal Investigator (AHRQ grant HS10328).

- *Investigators are developing and validating quality measures for insertion of tympanostomy tubes.*

Researchers are assessing the usefulness of tympanostomy tubes in children with recurring otitis media with effusion. They are developing quality measures and evidence-based criteria to identify appropriate candidates for tube placement. They also will examine the relationship between various patient, parent, and physician attributes and the appropriateness of tube placement. Mark R. Chassin, Principal Investigator (AHRQ grant HS10302).

- *Can census data be used to monitor care?*

Researchers are developing a series of indicators that are sensitive to differences in quality of care provided to vulnerable populations. Then they will determine the extent to which socioeconomic measures (based on census data) account for disparities in quality of care provided to black and Hispanic children. Kevin Fiscella, Principal Investigator (AHRQ HS10295).

- *Researchers are validating quality-of-care measures for vulnerable children.*

In the context of a school health initiative, this project will validate a health-related quality-of-life instrument and examine the relationships among structures and processes of care, health-related quality of life, and outcomes. The project will include children and

families who speak English, Spanish, Tagalog, and Vietnamese. Michael Seid, Principal Investigator (AHRQ grant HS10317).

- *Four projects support and facilitate health services researchers' career development in children's health.*

An Independent Scientist Award to Marielana Lara is facilitating her development as a researcher whose work will improve health outcomes and quality of life for Latino children with asthma (AHRQ grant K08 HS00008). John Feudtner's 5-year project will examine the epidemiological transition in pediatric mortality from mostly accidental and sudden death to deaths due to complex chronic conditions. The goals are to develop techniques to monitor health care use for indicators of quality of care for dying children and develop and test a longitudinal needs assessment program for children with complex chronic conditions (AHRQ grant K08 HS00002). Glenn Flores is focusing on ways to increase health coverage of Hispanic children. Based on information from focus groups made up of parents, he will evaluate methods for increasing enrollment (AHRQ grant K02 HS11305). Christopher Forrest's project will focus on the mechanisms by which managed care influences children's access to medical care, their use of specialty care, and their expenditures for health care. He will examine the impact of alternative models of primary-specialty care collaboration on quality, costs, and outcomes for children with chronic and mental health disorders (AHRQ grant K02 HS00003).

- *Researchers are validating the Healthcare Cost and Utilization Projects (HCUP) Patient Safety Quality Indicators.*

The purpose of this contract is to validate HCUP quality indicators to include patient safety indicators using data from three integrated delivery systems (Intermountain

Health Care, Providence Health System, and UPMC Health System) to accurately measure adverse events. Some of the HCUP quality indicators being validated will focus on the care of children. Shula Bernard, Principal Investigator.

- *Quality of care for homeless adolescents being measured.*

The aim of this Mentored Clinical Scientist Development Award is to conduct research using a mixed-method study, including interviews, focus groups and a pilot test, to document the factors necessary for monitoring access and quality of primary health care for homeless youth. B. Josephine Ensign, Principal Investigator (AHRQ grant HS 11414).

Quality Problem Identification

- *Data on hospital-reported medical injuries are being captured and analyzed.*

Data from AHRQ's Healthcare Cost and Utilization Project (HCUP) are being used to quantify the proportion of pediatric discharges with hospital-reported medical injuries and describe related patient characteristics. Anthony D. Slonim, Principal Investigator (AHRQ grant HS11022).

Determinants of Quality

- *Researchers examine medicaid managed care for Children with Special Health Care Needs (CSHCN).*

This study will analyze factors determining selection of a managed care plan by the parents of CSHCN, examine difficulties children may have in getting access to care by questioning parents, and examine several quality of care indicators such as receipt of preventive services (including immunizations and dental care, referrals to specialists, appropriateness of medication use, hospitalizations for ambulatory sensitive conditions, and continuity





of care). Jean Mitchell, Principal Investigator (AHRQ grant HS10912).

- *Effects of Medicaid enrollment gaps on asthma outcomes are being studied.*

Researchers are evaluating the effect of gaps in enrollment in Tennessee's Medicaid program for children with asthma by studying two markers for use of asthma care—emergency room visits and hospitalizations.

William O. Cooper, Principal Investigator (AHRQ grant HS10249).

- *Study is assessing how managed care policies affect the quality of pediatric asthma care.*

Investigators are determining the impact of the transition from fee-for-service to managed care on quality of treatment, quality of life, and health outcomes for indigent children with asthma, and they are assessing the impact of organizational policies on quality and outcomes. Bruce Stuart, Principal Investigator (AHRQ grant HS09950).

- *Researchers are identifying managed care features associated with high quality asthma care.*

This quality improvement intervention involves 2,700 children with asthma who are enrolled in nine Medicaid managed care organizations in California, Washington, and Massachusetts. Researchers are studying health plan payment mechanisms, provider profiling and incentives, and disease management programs; patient-level features, such as accessibility, continuity, and self-care practices; and other variables, such as quality of life, hospitalization and ER use, use of medication, severity of illness, and coexisting illnesses. Tracy Lieu, Principal Investigator (AHRQ grant HS09935).

- *Effects of managed care on the care provided to children with special*

health care needs are being examined.

The goal of this research is to assess the effects of selected organizational features of managed care organizations in Florida on the processes and outcomes of care for children with asthma, diabetes, and other special health care needs.

Researchers are studying the characteristics of the provider network, use of prior authorization for specialty referrals, presence and type of disease management programs, and the ownership status of the managed care organization. Elizabeth Shenkman, Principal Investigator (AHRQ grant HS09949).

- *Managed care efforts regarding children with chronic illnesses are being examined.*

Researchers are examining the structural characteristics, incentives, and quality-assurance efforts of managed care organizations in Washington State. They will determine how those factors affect the quality of care for children with chronic conditions such as asthma, diabetes, and cerebral palsy. Frederick Connell, Principal Investigator (AHRQ grant HS09948).

- *Findings on quality and severity are being applied in a pediatric emergency setting.*

A pediatric emergency department severity system is being validated and applied to a quality-of-care evaluation. Investigators also will analyze a set of institutional and clinical factors to identify correlates of hospital admission. Murray M. Pollack, Principal Investigator (AHRQ grant HS10238).

- *Study of neonatal intensive care addresses regionalization, market forces, and mortality.*

Researchers are assessing differences in neonatal mortality over time, focusing on assessing the volume of

newborns in high-risk groups, comparing insurance coverage with mortality, and assessing how competition affects the diffusion of units into community hospitals. Ciaran S. Phibbs, Principal Investigator (NIH/AHRQ grant HD36914).

- *Effects of teamwork on errors in neonatal intensive care units.*

Researchers are testing the hypothesis that specific behaviors in teamwork correlate with errors in delivering care to preterm infants during initial resuscitation and in the first 90 minutes of care. Eric J. Thomas, Principal Investigator (AHRQ grant HS11164).

- *New center will focus on diversity and therapeutics for the pediatric population.*

Improvement in child health is the focus of this Center for Education and Research on Therapeutics. Activities may include innovative education and research on new drugs and devices used in pediatric care and new uses of existing drugs and devices. Potential study topics include therapeutic drug monitoring in HIV-infected children, drug metabolism, vitamin D-deficient rickets, asthma care, attention deficit/hyperactivity disorder, and adverse drug reactions. William Campbell, Principal Investigator (AHRQ grant HS10397).

Making the Case for Investments In Quality

- *Researchers are assessing the economic impact of breast-feeding promotions.*

Using a randomized controlled trial, researchers are comparing the effects of pre- and postnatal breastfeeding promotions on child health care costs, breast-feeding practices, and outcomes. Karen A. Bonuck, Principal Investigator (AHRQ grant HS10900).

- *Study focuses on the effect of medication errors in the pediatric ICU.*

The aims of this Mentored Clinical Scientist Development Award are to: (1) calculate the increase in resource utilization attributable to exposure to medication errors in patients admitted to the pediatric ICU; (2) determine the risk of mortality attributable to exposure to medication errors in patients admitted to the pediatric ICU; and (3) determine the risk of requiring inpatient rehabilitation or technology dependence associated with exposure to medication errors. Joel D. Portnoy, Principal Investigator (AHRQ grant HS11636).

Addressing Racial and Ethnic Disparities

- *†Researchers analyze racial and ethnic differences in consumer health plan assessments.*

The purpose of this study is to examine the racial-ethnic differences in the consumer assessment of health plans (CAHPS) ratings and reports for adults and children enrolled in managed care plans. Robert J. Weech-Maldonado, Principal Investigator (AHRQ grant HS11386).

- *†Investigators establishing Center for Improving Patient Safety (CIPS).*

The goal of this project is to create a CIPS to study medical error awareness and experiences within racial and ethnic minority populations focusing on various settings, levels of care and medical specialties. One pilot study will use aggregated risk management incident reports to detect, prevent and treat common causes of medical errors and near misses in selected medical care settings, including general pediatrics, cardiology, emergency medicine and radiology. Robert S. Dittus, Principal Investigator (AHRQ grant HS11563).

- *Two studies focus on racial/ethnic variations in managing prematurity and infant mortality.*

In the first study, the researchers are using vital statistics to determine the relationship between newborn ethnicity, obstetric volume, and neonatal intensive care unit volume in the hospital of birth. Mark Chassin, Principal Investigator (AHRQ grant HS10859). In the second study, the researchers are using linked birth records, death records, and hospital discharge abstract data, to examine racial/ethnic differences in infant mortality. Martin Shapiro, Principal Investigator (AHRQ grant HS10858).

Recent Findings

Quality Improvement

- *Children with asthma did not improve following a pharmacist-delivered intervention.*

Researchers assessed changes in disease control, functional status, and cost associated with a structured program of pharmacist-delivered care for children with asthma and found no evidence that they improved in pulmonary function, functional status, quality of life, asthma management, or satisfaction with care. *Pharmaceutical Care and Pediatric Asthma Outcomes, Final Report* (NTIS Accession No. PB2000-101828),** Andreas S. Stergachis, Principal Investigator (AHRQ grant HS07834).

- *Feedback and financial incentives do not improve pediatric preventive care.*

In this study, providing pediatricians in Medicaid managed care organizations with feedback on compliance with preventive health services and financial bonuses did not increase their provision of these services. Hillman, Ripley, Goldfarb, et al., *Pediatrics* 104(5):931-935, 1999*** (AHRQ grant HS07634).

- *Researchers examine barriers to quality improvement activities in children's health care.*

Researchers interviewed experts and reviewed the published literature (1985-1997) on quality improvement (QI) activities in child health. Barriers to pediatric QI were similar to those for adult populations and were complicated by limited resources and difficulties in measuring health outcomes, among other factors. However, research has shown that some quality improvement strategies are effective. Ferris, Dougherty, Blumenthal et al., *Pediatrics* 107:143-155, 2001 (AHRQ Publication No. 01-R020)* (Intramural).

- *Embedding guidelines in a computer charting system does not improve quality of care.*

Researchers examined the impact of clinical guidelines for managing young children with high fevers with 830 febrile children under age 3. There were no changes in appropriateness of care or hospital charges for these children. Schrager, Baraff, Buller, et al., *J Am Med Inform Assoc* 7(2):186-195, 2000*** (AHRQ grant HS06284).

- *Researchers synthesize evidence on diagnosis and treatment of sinusitis in children.*

Researchers found little evidence on how to accurately diagnose acute sinusitis in children and note a lack of consensus on which clinical signs and symptoms are most useful for diagnosis. The various antibiotics used to treat pediatric sinusitis are equally effective; no convincing evidence supports the use of ancillary decongestants and antihistamines, and limited evidence supports the use of steroids. A summary of this evidence report (AHRQ Publication No. 01-E007) and the full report, *Diagnosis and Treatment of Uncomplicated Acute Sinusitis in Children*, (AHRQ Publication No.

01-E005) are available from AHRQ* (AHRQ contract 290-97-0019).

- *New evidence report focuses on children with attention-deficit/hyperactivity disorder (ADHD).*

Researchers assessed the effectiveness and long- and short-term safety of pharmacological and nonpharmacological interventions for ADHD. They also compared combined and individual interventions. Copies of the report summary (AHRQ Publication No. 99-E0017) and full report, *Treatment of Attention-Deficit/Hyperactivity Disorder* (AHRQ Publication No. 00-E005), are available from AHRQ* (AHRQ contract 290-97-0017).

- *AHRQ technical review focuses on the screening tests used to diagnose ADHD.*

The researchers identified several rating scales (e.g., the Conners Rating Scales and the DSM-III-R SNAP checklist) that effectively discriminate between ADHD children and normal controls. Broad-band behavior rating scales were ineffective in identifying ADHD children, as were imaging procedures (CT, CAT scan, MRI) and neurological screening tests. Copies of the summary (AHRQ Publication No. 99-0049) and technical review, *Diagnosis of Attention-Deficit/Hyperactivity Disorder* (AHRQ Publication No. 99-0050), are available from AHRQ* (AHRQ contract 290-94-2024).

- *Evidence report discusses rehabilitation for traumatic brain injury (TBI) in children.*

Researchers examined the effectiveness of early, intensive rehabilitation; the use and outcomes of appropriate special education; the role of developmental stage as a predictor of problems resulting from TBI; and the ability of support services to improve family coping and alleviate the burden of illness. Copies

of the report summary (AHRQ Publication No. 99-E025) and full report, *Rehabilitation of Traumatic Brain Injury in Children and Adolescents* (AHRQ Publication No. 00-E001), are available from AHRQ* (contract 290-97-0018).

- *Report summarizes available scientific evidence on managing acute otitis media.*

This report presents a synthesis of available scientific evidence on treating acute otitis media. The researchers discuss the natural history of acute otitis media, assess whether antibiotics are effective in treating the condition, and compare the effectiveness of specific antibiotic regimens. Copies of the report summary (AHRQ Publication No. 00-E008) and full report, *Management of Acute Otitis Media* (AHRQ Publication No. 00-E009), are available from AHRQ* (AHRQ contract 290-97-0001).

- *Pediatric practice guidelines lack input from families.*

A review of the literature on pediatric practice guidelines found that patient and family involvement in guideline development has been limited, potentially affecting the likelihood that guidelines will be successfully implemented. Bauchner and Simpson, *Health Serv Res* 33(4):1161-1177, 1998 (AHRQ Publication No. 99-R003)* (Intramural).

Quality Measurement

- *Adolescents accurately characterize the care they receive.*

To develop quality measures for adolescent care, researchers recruited 400 adolescents, audiotaped their visits with physicians, and conducted phone surveys to assess their recollection of the preventive health care they received. Adolescents' recall of the care they received was good. Klein, Graff, Santelli, et al., *Health Serv Res* 34(1):391-404, 1999*** (AHRQ HS08192).

- *Different measures are needed to assess the quality of health care provided to children and adults.*

Because children differ from adults in their health care needs and in the way they use care, researchers should use measures of health care quality that are appropriate to children. Future research should address specific methodologic challenges involved in measuring quality of pediatric health care. Palmer and Miller, *Ambulatory Pediatrics* 1(1):39-52, 2001 (AHRQ Publication No. 01-R037)* (Intramural).

- *Measuring quality for vulnerable children requires a special approach.*

These authors point out that pediatric quality measurement is distinct from that for adults because of factors related to children's development and dependence, differential epidemiology, demographic factors, and differences between the child and adult health service systems. A noncategorical approach, rather than one based on illness status or specific condition, is indicated. Seid, Varni, and Kurtin, *Am J Med Qual* 15(4):182-188, 2000*** (AHRQ grant HS10317).

Quality Problem Identification

- *Providers often do not address major injury-prevention issues during well-child visits.*

A survey of 465 pediatricians, family physicians, and pediatric nurse practitioners found that attitudes about certain childhood injuries, rather than knowledge about the prevalence of particular injuries, affected which counseling topics the clinicians discussed with their patients. Barkin, Fink, and Gelberg, *Arch Pediatr Adolesc Med* 153:1226-1231, 1999*** (NRSA training grant T32 HS00046).

- *Clinicians often do not counsel parents on drowning prevention.*

Despite the high incidence of drowning injuries in Los Angeles County, only one-third of a random sample of primary care providers counseled parents about drowning prevention. Two-thirds of the PCPs surveyed did not know that deaths of young children due to drowning are more common than deaths due to poisoning and firearm injury. Barkin and Gelberg, *Pediatrics* 104(5):1217-1219, 1999*** (NRSA training grant T32 HS00046).

- *Reducing ER errors in treating febrile infants may require system changes.*

A research team found that 7 percent of infants arriving at the ER with a high fever were treated inappropriately. They either were given antibiotics they did not need or did not receive antibiotics they actually did need. Glauber, Goldmann, Homer, et al., *Pediatrics* 105(6):1330-1332, 2000*** (NRSA grant T32 HS00063).

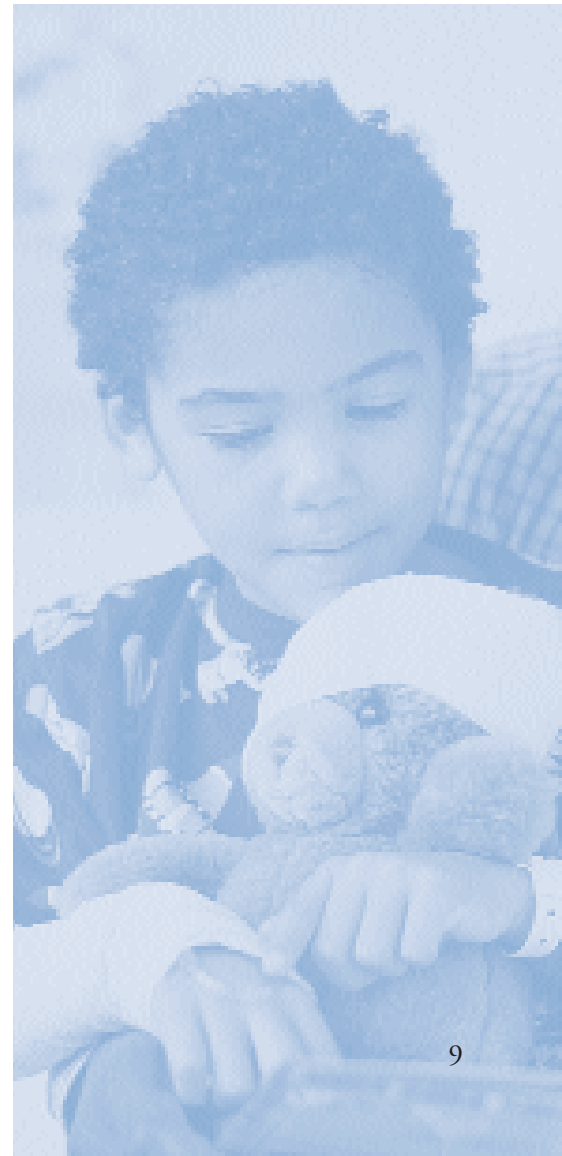
- *Caregivers should pay more attention to palliative care.*

A review of medical records of children who had died of cancer showed that parents were more likely than physicians to report that their child had fatigue, poor appetite, constipation, and diarrhea and that these symptoms were not recognized by the medical team. Also, suffering from pain was nearly three times more likely in children whose parents reported that the physician was not actively involved in end-of-life care. Wolfe, Grier, Klar, et al., *N Engl J Med* 342:326-333, 2000*** (NRSA training grant T32 HS00063).

Determinants of Quality

- *High-volume PICUs have better outcomes than low-volume units.*

A study of patient volume and its relationship to risk of death and length of stay in 16 PICUs revealed that higher patient volume is





consistent with lower mortality rates and shorter stays. Tilford, Simpson, Green, et al., *Pediatrics* 106:289-294, 2000*** (AHRQ grant HS09055).

- *Parents stress the importance of parent-doctor and child-doctor communication.*

The Child Core Survey from the Consumer Assessment of Health Plans Study (CAHPS®) was used to assess the interpersonal care of children based on parental responses. The most important factors—according to 3,083 assessments of overall care and of personal doctors—are parent-doctor communication, child-doctor communication, and sufficient time spent with the child. Homer, Fowler, Gallagher, et al., *Jt Comm J Qual Improv* 25(7):369-377, 1999*** (AHRQ grant HS09205).

- *Children in Medicaid managed care receive care equal to that of privately insured children.*

Researchers used administrative data and a telephone survey to obtain data on access to, satisfaction with, and use of services for enrollees of Kaiser Permanente of Northern California. They found that Medicaid-enrolled children received care at least equal to that of their commercially enrolled peers. Newacheck, Lieu, Kalkbrenner, et al., *Ambulatory Pediatrics* 1(1):28-35, 2001 (AHRQ Publication No. 01-R039)* (Intramural).

- *Study tracks hospital admissions data to determine impact of insurance status.*

Researchers used hospital data for 19 States to determine baseline rates of ambulatory-care-sensitive (ACS) conditions and analyze trends in the rates prior to the implementation of the State Children's Health Insurance Program (SCHIP). The rate of ACS admissions for self-pay and Medicaid-enrolled children increased between 1990 and 1995, but the rate for other insured

children decreased significantly. Friedman, Jee, Steiner, and Bierman, *Med Care Res Rev* 56(4):440-455, 1999 (AHRQ Publication No. 00-R009)* (Intramural).

- *Monthly recertification of Medicaid eligibility may undermine health care quality.*

Twelve months of continuous Medicaid enrollment and an assigned primary care physician (PCP) improved the care of children with middle ear infections, say researchers. Children who are continuously enrolled are far less likely to visit the ER for middle ear infections, more apt to receive antibiotics for the condition, and more likely to be referred for ear surgery than those who are discontinuously enrolled (due to monthly recertification) and lack a PCP. Berman, Bondy, Lezotte, et al., *Pediatrics* 104(5):1192-1197, 1999*** (AHRQ grant HS07816).

- *A number of variables affect assessments of managed care for children.*

A review of the research found that access to, satisfaction with, and quality of managed care depend on a range of variables. Future research should focus on specific features of managed care, managed care providers, and poor and chronically ill children. Simpson and Fraser, *Med Care Res Rev* 56(Suppl. 2), 13-36, 1999 (AHRQ Publication No. 99-R062)* (Intramural).

- *Do practice guidelines make a difference?*

Researchers argue that practice guidelines can enhance health care quality. Physician participation in guideline development and their perception of the philosophy behind a guideline were identified as key factors affecting guideline acceptance. Simpson, Kamerow, and Fraser, *Pediatr Ann* 27(4):234-240, 1998. (AHRQ Publication No. 98-R081)* (Intramural).

- *Providers reveal rationales for not reporting all cases of suspected child abuse.*

Researchers surveyed 85 providers in a regional practice-based research network. Reasons given for not reporting suspected abuse included uncertainty about the abuse diagnosis, past negative experience with Child Protective Services, and a perception that past reporting of abuse did not help the child. Flaherty, Sege, Binns, et al., *Arch Pediatr Adolesc Med* 154:489-493, 2000*** (AHRQ grant HS09811).

Making the Case for Investments in Quality

- *Using less expensive antibiotics to treat children's ear infections could save money without compromising care.*

Researchers found that more expensive antibiotics accounted for only 30 percent of the prescriptions written but up to 77 percent of the more than \$2 million spent on medications for acute otitis media in the Colorado Medicaid program. Less expensive antibiotics, which worked just as well, accounted for 67 percent of the prescriptions but only 21 percent of the costs. Berman, Byrns, Bondy, et al., *Pediatrics* 100(4):585-592, 1997*** (AHRQ grant HS07816).

Tools for Quality Improvement

Evidence-based Practice Centers

Under this program, 12 five-year contracts have been awarded by AHRQ to institutions in the United States and Canada to serve as Evidence-based Practice Centers (EPCs). The EPCs will review all relevant scientific literature on assigned clinical care topics and produce evidence reports and technology assessments, conduct research on methodologies and the effectiveness of their implementation, and participate in technical assistance

activities. Public and private sector organizations may use the reports and assessments as the basis for their own clinical guidelines and other quality improvement activities. Current work relevant to children includes:

- **Management of Bronchiolitis.** Research Triangle Institute and University of North Carolina at Chapel Hill.
- **Neonatal Hyperbilirubinemia.** New England Medical Center.
- **Preventing Adolescent Criminal and Other Health-Risking Social Behavior.** The Oregon Health and Science University.
- ***Treatment-Resistant Epilepsy.** Emergency Care Research Institute (ECRI).

Child Health Toolbox

The AHRQ-developed web-based Child Health Toolbox provides concepts, tips, and tools for evaluating quality of health care in Medicaid, the State Children's Health Insurance Program (SCHIP), Title V, and other health care service programs for children. The toolbox is especially designed to be useful to busy State policy makers and others concerned about quality of care. For more information, see <http://www.ahrq.gov/chtoolbox/>.

CAHPS®

The Consumer Assessment of Health Plans (CAHPS®) is a family of surveys that measure patients' experiences of health care, a critical dimension of quality. CAHPS® was developed by a consortium of researchers from Harvard, RAND, and RTI led by AHRQ staff, and CAHPS® is a registered trademark of AHRQ. In 2002, the National Committee on Quality Assurance, the nation's major accreditor of managed care plans, introduced a revised, expanded CAHPS® for children into its HEDIS measurement set. The new CAHPS® for children allows plans

and consumers to assess quality for children with chronic illnesses and disabilities separately from quality of care for other children. Visit <http://www.cahps-sun.org> or call 1-800-492-9261, for the survey, help with survey implementation and reporting of results, and for information on the National CAHPS® Benchmarking Database (NCBD).

AHRQ Quality Indicators

The AHRQ Quality Indicators (QIs) are measures of health care quality that make use of readily available hospital inpatient administrative data. Software and a user guide are now available that will help users apply the Quality Indicators to their own data. AHRQ recently released a subset of the AHRQ Quality Indicators, the Prevention Quality Indicators, which include 3 indicators specific to children, and others that can be analyzed with children's hospital discharge data. For more information, visit <http://www.ahrq.gov/data/hcup/prevqi.htm>.

PPIP

Put Prevention Into Practice (PPIP) is the vehicle for implementing recommendations of the U.S. Preventive Services Task Force. Both activities are managed by AHRQ. For more information, visit <http://www.ahrq.gov/clinic/prevenix.htm>

20 Tips to Help Prevent Medical Errors

This fact sheet provides specific, research-based recommendations on preventing errors related to medicines, hospital stays, and surgery. Other general recommendations are included. Copies are available from AHRQ* (AHRQ Publication No. 00-P038). A Spanish language fact sheet is also available from AHRQ* (AHRQ Publication No. 00-P039).

User Liaison Program (ULP) Workshops with Senior State Officials.

The ULP disseminates health services research findings in easily understandable and usable formats through interactive workshops and technical assistance for State and local health policymakers and other health services users. Summaries of workshops are available on AHRQ's Web site at:

<http://www.ahrq.gov/news/ulpix.htm>

- **Improving the Quality of Care Delivered to Children Served by State Agencies.** January 24-26, 2001, New Orleans, LA.

For More Information

AHRQ's World Wide Web site (www.ahrq.gov) provides information on the Agency's children's health services research agenda, including detailed information on funding opportunities.

Further details on AHRQ's programs and priorities in child health services research are available from:

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Items in this fact sheet that are marked with an asterisk (*) are available free from the AHRQ Clearinghouse; to order, contact the AHRQ Clearinghouse, P.O. Box 8547, Silver Spring, MD 20907; phone 800-358-9295. Please use the AHRQ publication number when ordering.

Items marked with two asterisks (**) may be purchased from the National Technical Information Service (NTIS). Call NTIS at 800-553-6847 for more information.

Items marked with three asterisks (***) are not available through the AHRQ Clearinghouse. However, these abstracts and published articles can usually be obtained through the Department of Health and Human Services National Library of Medicine Medline site at <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>



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